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L3              19 S L1 FULL

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L4               5 S L3

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L1             STR
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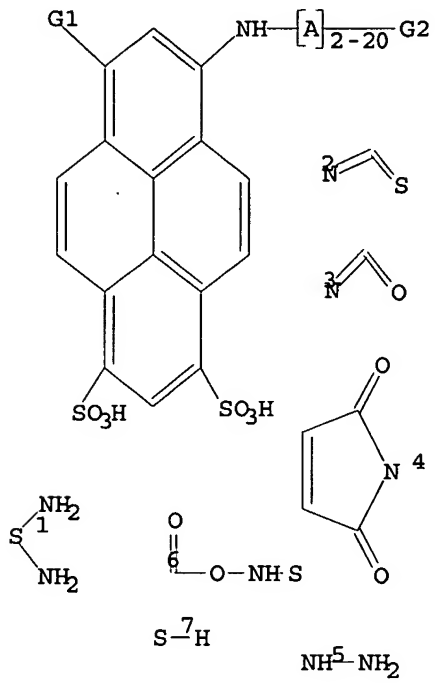


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Structure attributes must be viewed using STN Express query preparation.
L3            19 SEA FILE=REGISTRY SSS FUL L1
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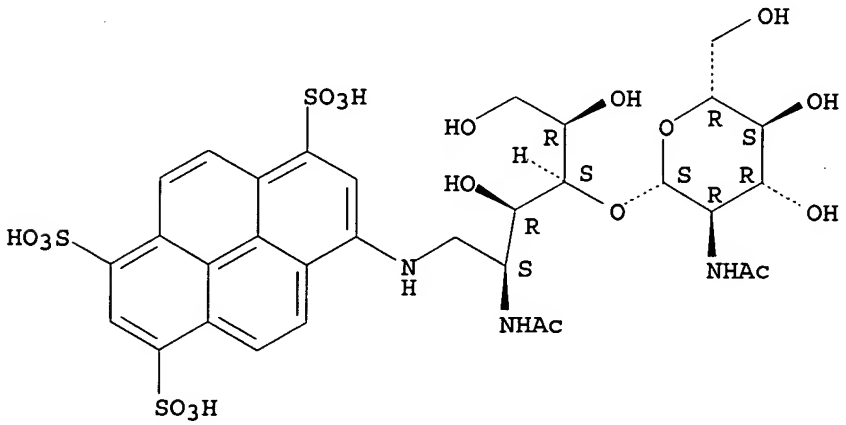
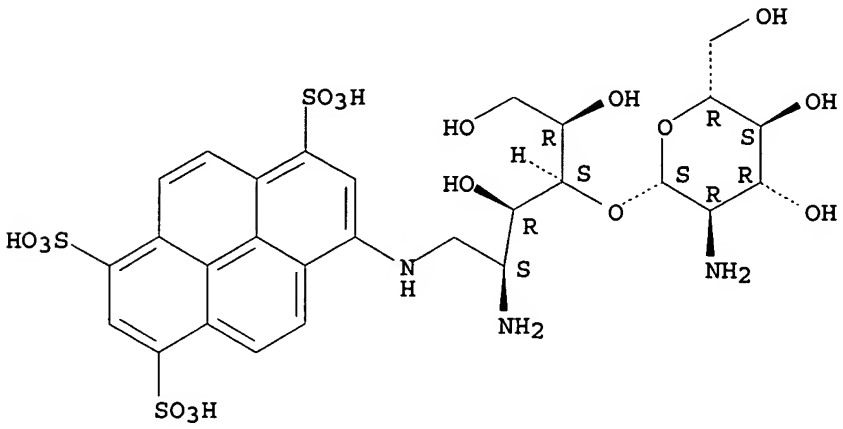
L4 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:969066 CAPLUS
DN 144:208286
TI Capillary electrophoresis separation of a mixture of chitin and chitosan oligosaccharides derivatized using a modified fluorophore conjugation procedure
AU Beaudoin, Marie-Eve; Gauthier, Julie; Boucher, Isabelle; Waldron, Karen C.
CS Department of Chemistry, Universite de Montreal, Montreal, Can.
SO Journal of Separation Science (2005), 28(12), 1390-1398
CODEN: JSSCCJ; ISSN: 1615-9306
PB Wiley-VCH Verlag GmbH & Co. KGaA
DT Journal
LA English
AB A capillary electrophoresis (CE) method was developed for the simultaneous anal. of small chitin and chitosan oligosaccharides. For detection purposes, the oligomers were derivatized with 8-aminopyrene-1,3,6-trisulfonic acid (APTS), a well known fluorophore for oligosaccharides anal. The detection was performed by laser-induced fluorescence (LIF) with an argon ion laser having an excitation wavelength of 488 nm and with emission monitored at 520 nm. Derivatization parameters such as reaction time and conditions were examined Separation conditions were also varied by testing a range of buffer pHs and concns. The best conditions were found using an 80 mM borate buffer at pH 8.4. This CE-LIF optimized method was used for the anal. of an enzymically produced oligo-chitosan sample composed of a complex mixture and having an average d.p. of 3.7 monomer units and 80% deacetylation. The oligo-chitosan sample was treated with a chitin deacetylase-like enzyme, the products were derivatized with APTS, and then analyzed without purification The goal was to determine whether the deacetylase-like enzyme could increase the extent of deacetylation of the oligo-chitosan sample.
IT 875614-57-6P 875614-58-7P 875614-59-8P
875614-60-1P 875614-61-2P 875614-62-3P
875614-63-4P 875614-64-5P 875614-65-6P
875614-66-7P
RL: ANT (Analyte); PNU (Preparation, unclassified); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)
(capillary electrophoresis separation of a mixture of chitin and chitosan oligosaccharides derivatized using a modified fluorophore conjugation procedure)
RN 875614-57-6 CAPLUS
CN D-Glucitol, 2-(acetylamino)-4-O-[2-(acetylamino)-2-deoxy-β-D-glucopyranosyl]-1,2-dideoxy-1-[(3,6,8-trisulfo-1-pyrenyl)amino]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 875614-58-7 CAPLUS
CN D-Glucitol, 2-amino-4-O-(2-amino-2-deoxy-β-D-glucopyranosyl)-1,2-dideoxy-1-[(3,6,8-trisulfo-1-pyrenyl)amino]- (9CI) (CA INDEX NAME)

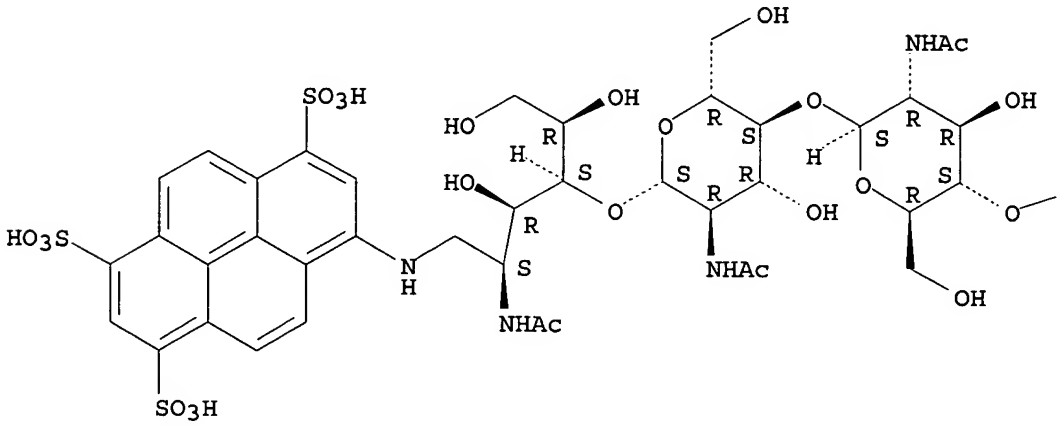
Absolute stereochemistry.



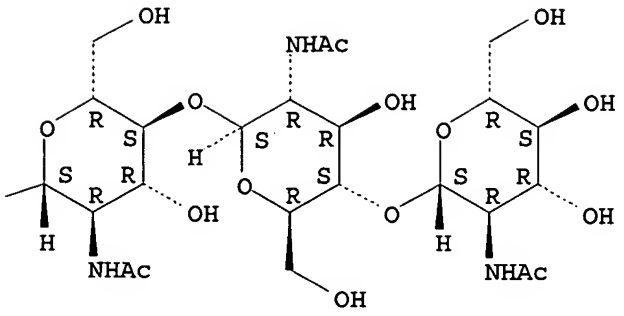
RN 875614-59-8 CAPLUS
CN D-Glucitol, O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-1,2-dideoxy-1-[(3,6,8-trisulfo-1-pyrenyl)amino]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



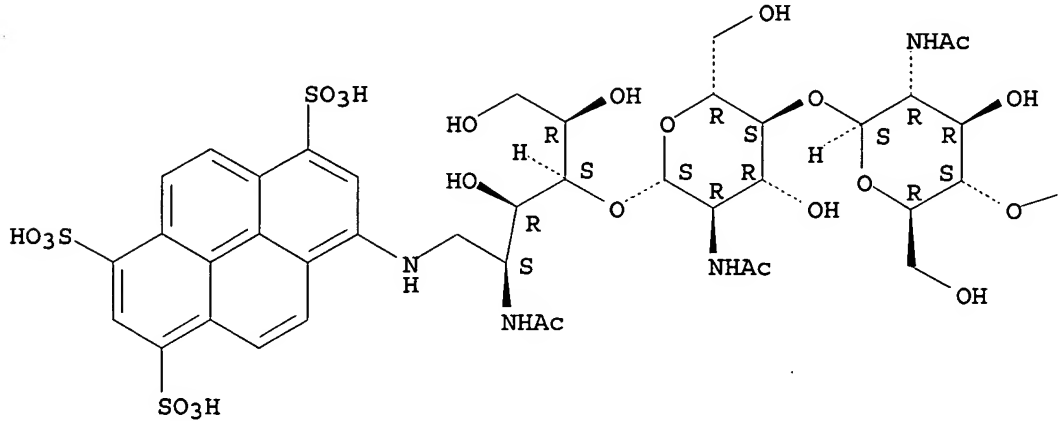
PAGE 1-B



RN 875614-60-1 CAPLUS
CN D-Glucitol, O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-1,2-dideoxy-1-[(3,6,8-trisulfo-1-pyrenyl)amino]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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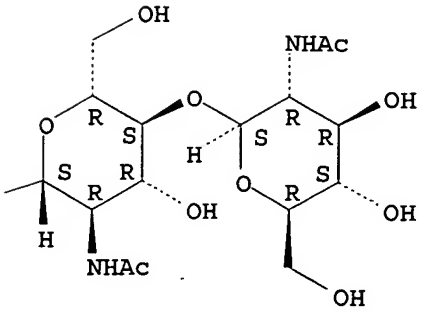
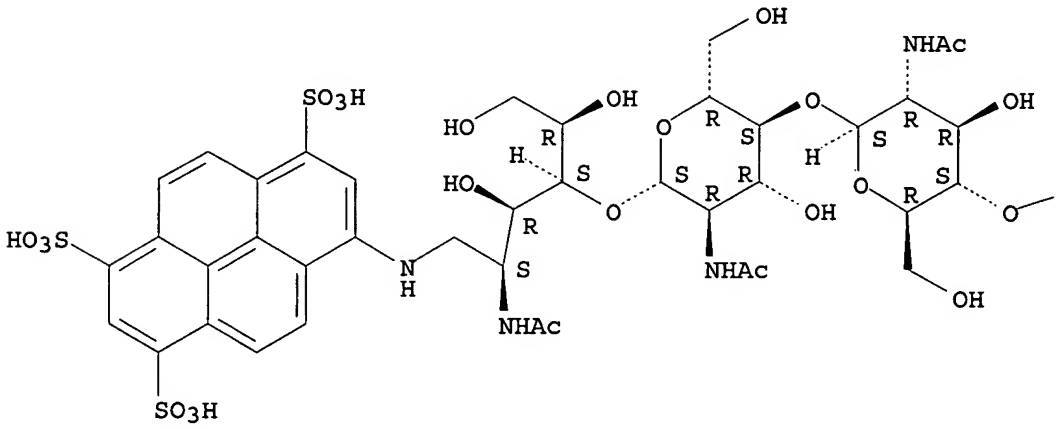


RN 875614-61-2 CAPLUS

CN D-Glucitol, O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-1,2-dideoxy-1-[(3,6,8-trisulfo-1-pyrenyl)amino]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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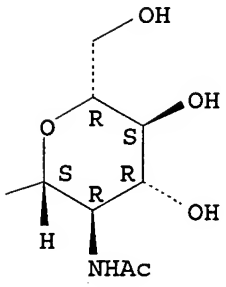
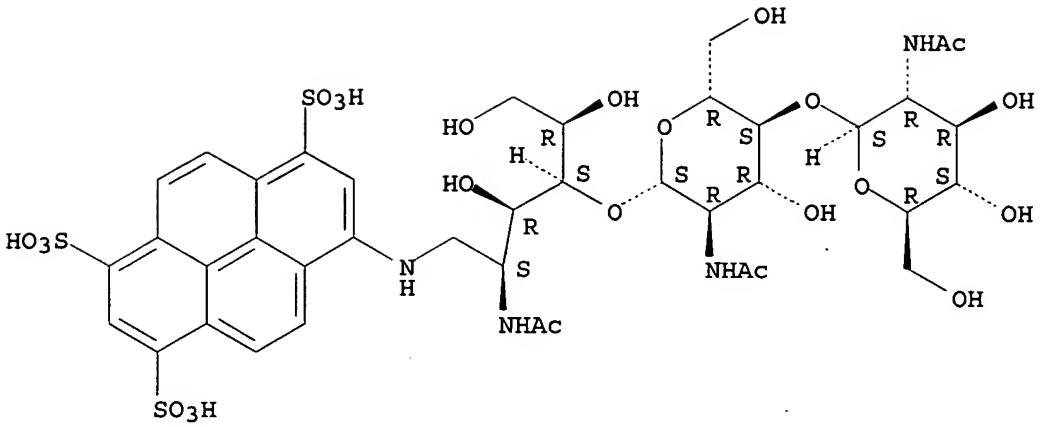


RN 875614-62-3 CAPLUS

CN D-Glucitol, O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-1,2-dideoxy-1-[(3,6,8-trisulfo-1-pyrenyl)amino]- (9CI) (CA INDEX NAME)

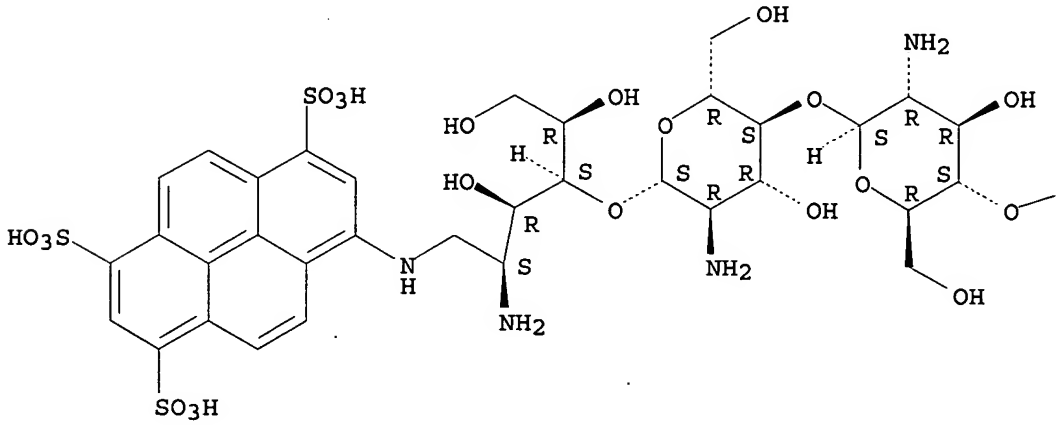
Absolute stereochemistry.



RN 875614-63-4 CAPLUS
CN D-Glucitol, O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→4)-2-amino-1,2-dideoxy-1-[(3,6,8-trisulfo-1-pyrenyl)amino]-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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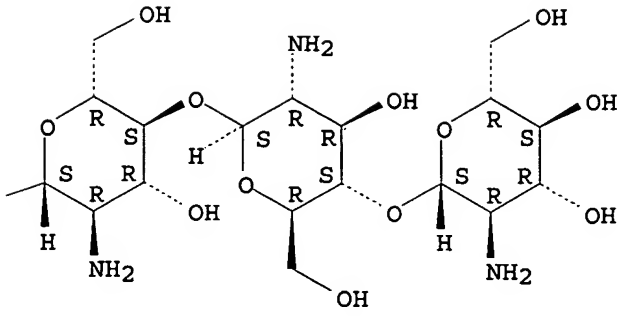

RN 875614-64-5 CAPLUS
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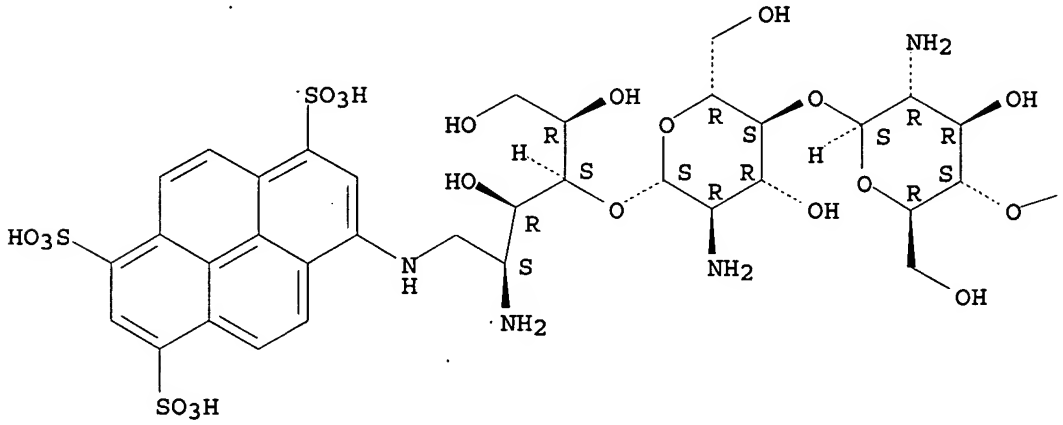
Absolute stereochemistry.

PAGE 1-A



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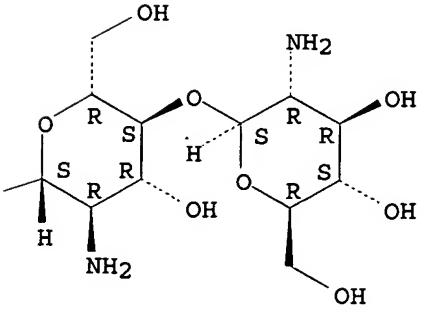
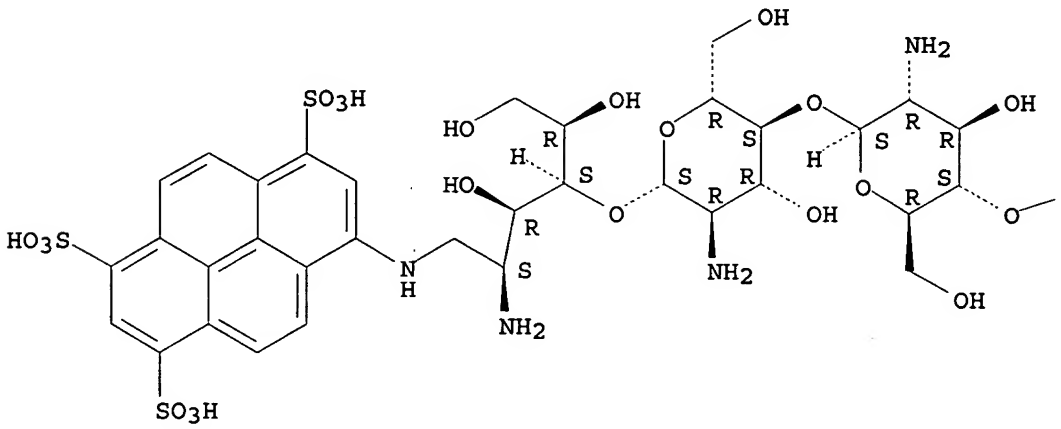


RN 875614-65-6 CAPLUS

CN D-Glucitol, O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→4)-2-amino-1,2-dideoxy-1-[(3,6,8-trisulfo-1-pyrenyl)amino]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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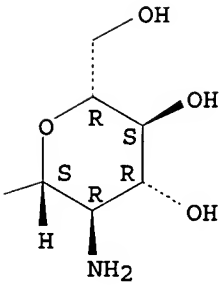
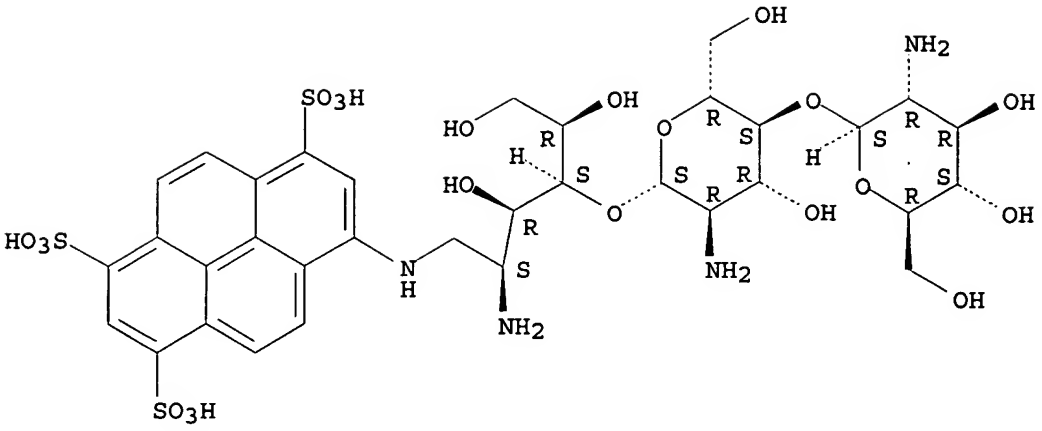


RN 875614-66-7 CAPLUS
CN D-Glucitol, O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→4)-2-amino-1,2-dideoxy-1-[(3,6,8-trisulfo-1-pyrenyl)amino]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:270181 CAPLUS
DN 140:300066
TI Novel green and orange fluorescent labels and their uses
IN Bhatt, Ram; Conrad, Michael J.; Bencheikh, Azzouz; Xiong, Yifeng
PA Chromagen, Inc., USA
SO PCT Int. Appl., 80 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004027388	A2	20040401	WO 2003-US30167	20030923
WO 2004027388	A3	20040610		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003272680	A1	20040408	AU 2003-272680	20030923
US 2004106806	A1	20040603	US 2003-669584	20030923
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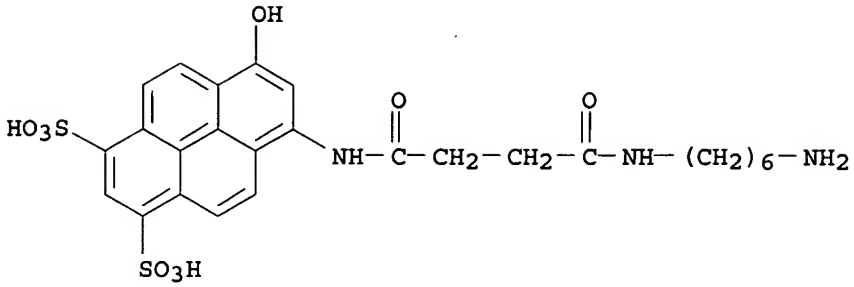
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRAI US 2002-413025P	P	20020923		
WO 2003-US30167	W	20030923		

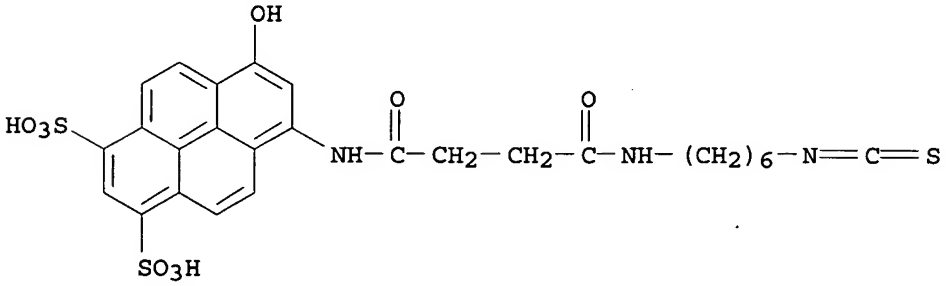
AB The present invention provides novel fluorescent compds. and covalent attachment chemistries which facilitate the use of these compds. as labels for ultrasensitive and quant. fluorescent detection of low levels of biomols. In a preferred embodiment, the fluorescent labels of this invention are novel derivs. of the hydroxy-pyrene trisulfonic and disulfonic acids which may be used in any assay in which radioisotopes, colored dyes or other fluorescent mols. are currently used. Thus, for example, any assay using labeled antibodies, proteins, oligonucleotides or lipids, including fluorescent cell sorting, fluorescence microscopy (including dark-field microscopy), fluorescence polarization assays, ligand, receptor binding assays, receptor activation assays and diagnostic assays can benefit from use of the compds. disclosed herein.

IT 676327-68-7P 676327-69-8P 676327-71-2P
676327-72-3P 676327-73-4P
RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(novel green and orange fluorescent labels and their uses)

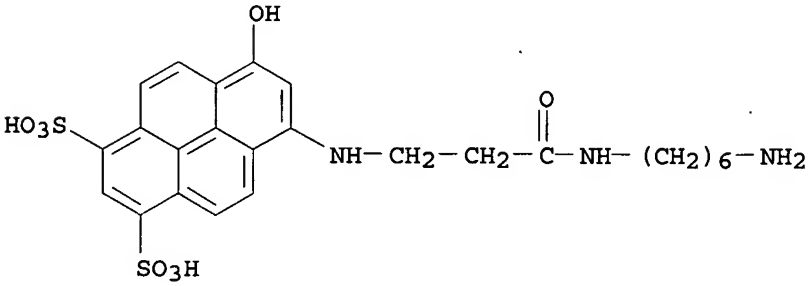
RN 676327-68-7 CAPLUS
CN 1,3-Pyrenedisulfonic acid, 6-[[4-[(6-aminohexyl)amino]-1,4-dioxobutyl]amino]-8-hydroxy- (9CI) (CA INDEX NAME)



RN 676327-69-8 CAPLUS
CN 1,3-Pyrenedisulfonic acid, 6-hydroxy-8-[[4-[(6-isothiocyanatohexyl)amino]-1,4-dioxobutyl]amino]- (9CI) (CA INDEX NAME)

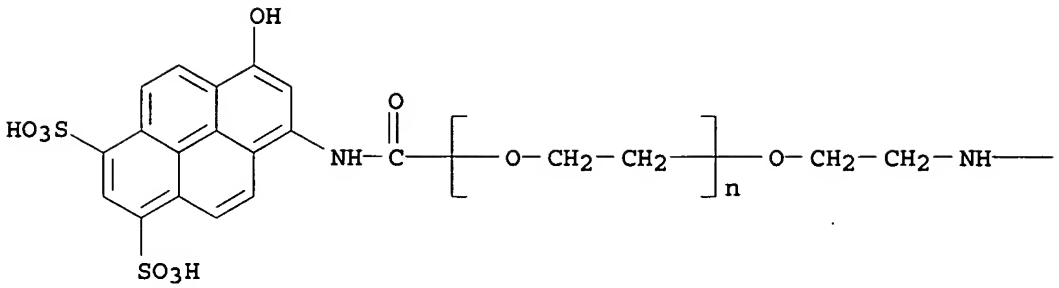


RN 676327-71-2 CAPLUS
CN 1,3-Pyrenedisulfonic acid, 6-[[3-[(6-aminohexyl)amino]-3-oxopropyl]amino]-8-hydroxy- (9CI) (CA INDEX NAME)

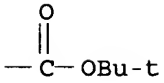


RN 676327-72-3 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(3-hydroxy-6,8-disulfo-1-pyrenyl)amino]carbonyl]-ω-[2-[[(1,1-dimethylethoxy)carbonyl]amino]ethoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A

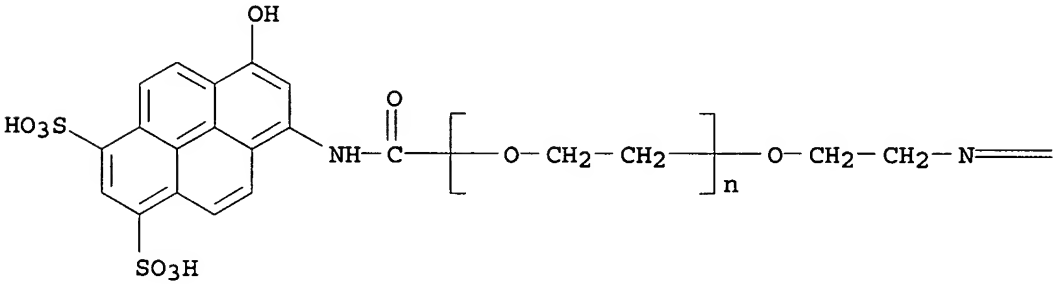


PAGE 1-B

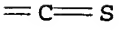


RN 676327-73-4 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[(3-hydroxy-6,8-disulfo-1-pyrenyl)amino]carbonyl]-ω-(2-isothiocyanatoethoxy)- (9CI) (CA INDEX NAME)

PAGE 1-A

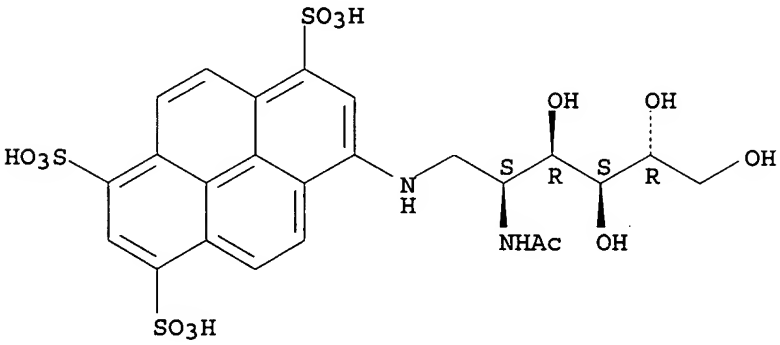


PAGE 1-B



L4 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:176033 CAPLUS
DN 124:317713
TI Acid-catalyzed reductive amination of aldoses with 8-aminopyrene-1,3,6-trisulfonate
AU Evangelista, Ramon A.; Guttman, Andras; Chen, Fu-Tai A.
CS Beckman Instruments Inc., Fullerton, CA, 92634, USA
SO Electrophoresis (1996), 17(2), 347-51
CODEN: ELCTDN; ISSN: 0173-0835
PB VCH
DT Journal
LA English
AB The reductive amination of monosaccharides with 8-aminopyrene-1,3,6-trisulfonate (APTS) in seven different organic acids including the commonly used acetic acid was investigated by capillary electrophoresis (CE) with laser-induced fluorescence (LIF) detection. The correlation between the yields of the saccharide-APTS adducts and pKa of the organic acid catalyst is consistent with general acid catalysis of the rate-determining step of the reductive amination reaction. Derivatization in the presence of organic acids of higher strength than acetic acid produced substantially higher yields of APTS-sugar adducts, an effect which is more pronounced for N-acetylamino sugars. Optimum yields were obtained using citric acid as a catalyst. Conversion of a few nanomoles of neutral saccharides to the APTS derivs. is achieved at 75°C in less than 60 min.
IT 176248-29-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(acid-catalyzed reductive amination of aldoses with aminopyrene trisulfonate)
RN 176248-29-6 CAPLUS
CN D-Glucitol, 2-(acetylamino)-1,2-dideoxy-1-[(3,6,8-trisulfo-1-pyrenyl)amino]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1991:38812 CAPLUS
DN 114:38812
TI Preparation and use of derivatives of pyrene and chrysene as fluorescent tracers in immunoassays
IN Dowben, Robert M.
PA USA
SO PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9005916	A1	19900531	WO 1989-US4828	19891027
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	RW: CH, DE, FR, GB, IT, NL				
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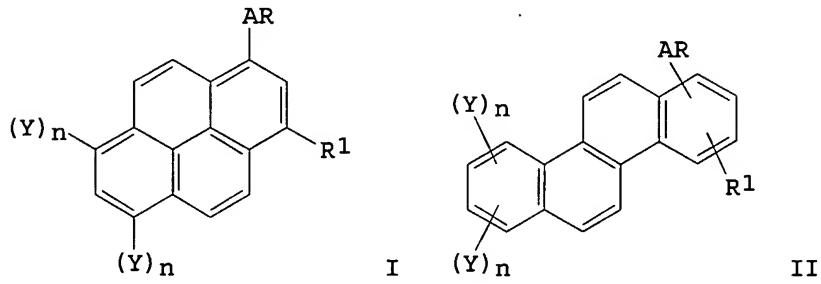
	R: DE				
	JP 03502333	T2	19910530	JP 1990-500327	19891027
PRAI	US 1988-271161	A	19881114		
	WO 1989-US4828	W	19891027		

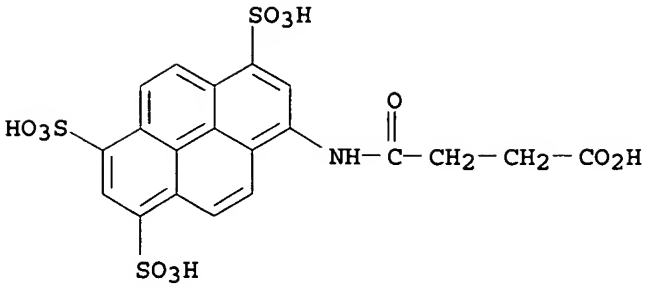
OS MARPAT 114:38812
GI



AB Pyrene derivs. I [A = O, N, S; R = H, (un)substituted C1-8 alkyl, C2-8 ester, substituted aryl; Y = H, SO3Z; Z = H, halide; R1 = H, Y, AR; n = 0, 1] and chrysene derivs. II (A, R, Y, Z, R1, n as above) are prepared and coupled with ligands for use as markers in FIAs. Thus, 8-acetoxy-1,3,6-pyrenetrisulfonyl chloride (III) was prepared from 8-hydroxy-1,3,6-pyrenetrisulfonic acid by reacting with Ac2O and SOCl2. A tracer was formed by reacting III with 2-aminophenobarbital to construct a standard curve for a fluorescence polarization immunoassay for phenobarbital in serum.

IT 130690-57-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with thyroxine analog in tracer preparation for thyroxine determination by fluorescence polarization immunoassay)

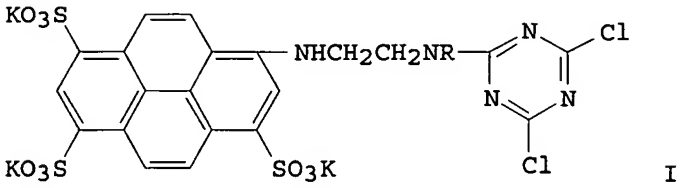
RN 130690-57-2 CAPLUS
CN Butanoic acid, 4-oxo-4-[(3,6,8-trisulfo-1-pyrenyl)amino]- (9CI) (CA INDEX NAME)


SO3H
HO3S
O
NH—C—CH2—CH2—CO2H
SO3H

L4 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1976:434647 CAPLUS
DN 85:34647
TI Novel reactive dyes
PA Imperial Chemical Industries Ltd., UK
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 49099720	A2	19740920	JP 1974-4531	19731227
	GB 1441021	A	19760630	GB 1973-730	19731205
PRAI	GB 1973-730	A	19730105		

GI



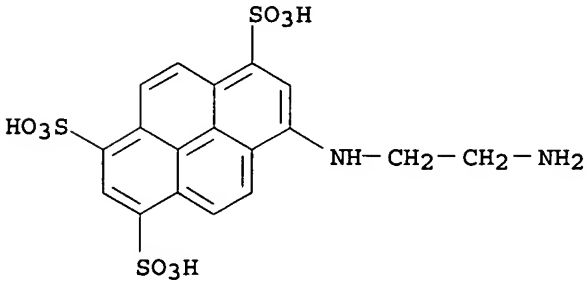
I

AB Reactive dyes, I (R = H [59572-12-2], HOCH2CH2 [59572-13-3]) were prepared and dyed cellulosic fibers in fluorescent greenish yellow and yellow shades, resp. For example, tetra-Na 1,3,6,8-pyrenetetrasulfonate [59572-10-0] and 65% aqueous ethylenediamine [107-15-3] were autoclaved at 200-10° for 18 hr, freed from unreacted diamine, taken-up in water, and stirred with denatured alc. and KOAc to give tri-K 1-(2-aminoethylamino)-3,6,8-pyrenetrisulfonate [59588-06-6] which was treated with cyanuric chloride [108-77-0] to give I (R = H).

IT 59588-06-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with cyanuric chloride)

RN 59588-06-6 CAPLUS

CN 1,3,6-Pyrenetrisulfonic acid, 8-[(2-aminoethyl)amino]-, tripotassium salt (9CI) (CA INDEX NAME)



●3 K

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                 S"/AU OR "BHATT RAM SAROOP"/AU)
L6            24 SEA FILE=CAPLUS ABB=ON  PLU=ON  "CONRAD MICHAEL J"/AU
L7             1 SEA FILE=CAPLUS ABB=ON  PLU=ON  "BENCHEIKH AZZOUZ"/AU
L8            12 SEA FILE=CAPLUS ABB=ON  PLU=ON  "XIONG YIFENG"/AU
L9            63 SEA FILE=CAPLUS ABB=ON  PLU=ON  L5 OR L6 OR L7 OR L8
L10            6 SEA FILE=CAPLUS ABB=ON  PLU=ON  L9 AND FLUORESCENT

=> d 1-6 bib abs
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L10 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:270181 CAPLUS
DN 140:300066
TI Novel green and orange fluorescent labels and their uses
IN Bhatt, Ram; Conrad, Michael J.; Bencheikh, Azzouz; Xiong, Yifeng
PA Chromagen, Inc., USA
SO PCT Int. Appl., 80 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004027388	A2	20040401	WO 2003-US30167	20030923
	WO 2004027388	A3	20040610		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003272680	A1	20040408	AU 2003-272680	20030923
	US 2004106806	A1	20040603	US 2003-669584	20030923
	EP 1546673	A2	20050629	EP 2003-754878	20030923
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRAI	US 2002-413025P	P	20020923		
	WO 2003-US30167	W	20030923		

AB The present invention provides novel fluorescent compds. and covalent attachment chemistries which facilitate the use of these compds. as labels for ultrasensitive and quant. fluorescent detection of low levels of biomols. In a preferred embodiment, the fluorescent labels of this invention are novel derivs. of the hydroxy-pyrene trisulfonic and disulfonic acids which may be used in any assay in which radioisotopes, colored dyes or other fluorescent mols. are currently used. Thus, for example, any assay using labeled antibodies, proteins, oligonucleotides or lipids, including fluorescent cell sorting, fluorescence microscopy (including dark-field microscopy), fluorescence polarization assays, ligand, receptor binding assays, receptor activation assays and diagnostic assays can benefit from use of the compds. disclosed herein.

L10 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:575344 CAPLUS
DN 137:116786
TI Scanning spectrophotometer for high throughput fluorescence detection and fluorescence polarization
IN Gould, Gene; Conrad, Michael J.
PA Chromagen, Inc., USA
SO PCT Int. Appl., 49 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002059584	A2	20020801	WO 2001-US50136	20011231
	WO 2002059584	A3	20030130		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2432210	AA	20020801	CA 2001-2432210	20011231
	AU 2002246811	A1	20020806	AU 2002-246811	20011231
	US 2002109841	A1	20020815	US 2001-39769	20011231
	EP 1352230	A2	20031015	EP 2001-994417	20011231
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2005500513	T2	20050106	JP 2002-559651	20011231
PRAI	US 2000-259326P	P	20001229		
	WO 2001-US50136	W	20011231		

AB A fluorescence spectrophotometer system is described comprising a light source; a first double monochromator comprising two or more gratings and operative to sep. light from the light source into a plurality of wavelengths and to output selected wavelengths as excitation light; a light transfer module comprising a first reflection surface operative to direct substantially all of the excitation light directly onto a sample; and a second refection surface operative to direct light that is emitted from the sample as fluorescent or luminescent light; a second double monochromator comprising two or more gratings and operative to sep. the fluorescent or luminescent light directed by the light transfer module into a plurality of wavelengths and to output selected wavelengths of the fluorescent or luminescent light as emission light; and a photodetector and analyzer, operative to receive the emission light output by the second double monochromator, to detect the selected wavelengths of the emission light, and to output an indication of the selected wavelengths. The spectrometer may comprise a first and second multi-grating monochromator instead of double monochromator. The double monochromator may comprise an entrance aperture for accepting input light; a first optical grating positioned to disperse at least part of the light accepted through the entrance aperture; a first selection aperture positioned to intercept part of the light dispersed by the first optical grating and operative to pass a selected range of wavelengths of the dispersed light; a second optical grating positioned to disperse at least part of the light passed through the first selection aperture; and a second selection aperture positioned to intercept part of the light dispersed by the second optical grating and operative to pass a selected range of wavelengths of the dispersed light as output light. The light transfer module may comprise an excitation mirror positioned substantially coaxial with an area to be illuminated and operative to direct incoming

light to illuminate the area such that the illuminated area emits fluorescent or luminescent light; and an emission mirror positioned substantially coaxial with the illuminated area and in off-axis alignment with the excitation mirror; wherein the emission mirror is operative to focus and to direct light emitted by the illuminated area as emission light. A method of analyzing a sample is described entailing providing excitation light from a light source; directing the excitation light through a first double monochromator; transmitting the excitation light to the sample through a light transfer module; employing the light transfer module to obtain light emitted by the sample; directing the light emitted by the sample to a second double monochromator; and analyzing light output by the second double monochromator.

L10 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:53935 CAPLUS
DN 132:90054
TI Novel fluorogenic substrates for hydrolytic enzymes
IN Conrad, Michael J.; He, Liyan
PA Chromagen, Inc., USA
SO PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000003034	A2	20000120	WO 1999-US15447	19990709
	WO 2000003034	A3	20000427		
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	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2335564	AA	20000120	CA 1999-2335564	19990709
	AU 9949766	A1	20000201	AU 1999-49766	19990709
	EP 1095161	A2	20010502	EP 1999-933782	19990709
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002520448	T2	20020709	JP 2000-559254	19990709
	US 6635435	B1	20031021	US 1999-350461	19990709
	US 2003049714	A1	20030313	US 2002-229628	20020827
	US 6949632	B2	20050927		
PRAI	US 1998-92245P	P	19980710		
	US 1999-350461	A1	19990709		
	WO 1999-US15447	W	19990709		

OS MARPAT 132:90054
AB The subject invention provides compds. useful as fluorogenic substrates for the hydrolytic enzymes. Upon hydrolysis of the hydrolyzable group, a halo-pyrene substituted mol. is developed which is highly fluorescent, water soluble and exhibits several desirable characteristics, including a large Stokes' shift. Preparation of chloro-phosphate pyrene-disulfonic acid pentammonium salt and its use as a fluorogenic substrate of alkaline phosphatase is described.

L10 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:513450 CAPLUS
DN 127:186609
TI Fluorescent analogs of nucleoside bases and their use in hybridization probes
IN Conrad, Michael J.
PA USA
SO U.S., 61 pp., Cont.-in-part of U.S. Ser. No. 108,457, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5652099	A	19970729	US 1994-292892	19940818
	US 5728525	A	19980317	US 1995-459890	19950602
	US 6268132	B1	20010731	US 1998-39021	19980313
PRAI	US 1992-834456	B2	19920212		
	US 1993-21539	B2	19930212		
	US 1993-108457	B2	19930818		
	US 1994-292892	A3	19940818		
	US 1995-459890	A3	19950602		

OS MARPAT 127:186609
AB Structural analogs of the six non-fluorescent N-nucleosides commonly found in RNA and DNA, that are inherently fluorescent under physiol. conditions, are identified and methods given for their preparation Markush structures for these analogs are reported. Such analogs may be incorporated into DNA and/or RNA oligonucleotides via either enzymic or chemical synthesis to produce fluorescent oligonucleotides having prescribed sequences. Such analogous sequences may be identical to, or the analogous complement of, template or target DNA or RNA sequences to which the fluorescent oligonucleotides can be hybridized. Methods of preparing either RNA or DNA oligonucleotide probes of the invention, intermediates used in such methods, and methods of using the probes of the invention in oligonucleotide amplication, detection, identification, and/or hybridization assays are also provided.

L10 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:559854 CAPLUS
DN 123:332081
TI Fluorescent analogs of nucleosides found in RNA and DNA and their use in amplification, detection, identification, and hybridization assays
IN Conrad, Michael J.
PA Chromagen, Inc., USA
SO PCT Int. Appl., 84 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9505391	A1	19950223	WO 1994-US9316	19940818
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2145750	AA	19950223	CA 1994-2145750	19940818
	EP 669928	A1	19950906	EP 1994-927183	19940818
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 09505556	T2	19970603	JP 1994-507174	19940818
PRAI	US 1993-108457	A	19930818		
	WO 1994-US9316	W	19940818		

OS MARPAT 123:332081
GI For diagram(s), see printed CA Issue.
AB Structural analogs of the six non-fluorescent N-nucleosides commonly found in RNA and DNA, which are inherently fluorescent under physiol. conditions (I X1-X7 = N, O, C, S, Si but at least one is N; R4 = reactive group for attachment of detectable label; R5 = H or part of etheno linkage with R4; R6 = H, NH2, SH, O; R8 = R9 = H, Me, Br, F, I, alkyl, aromatic, linking moiety; R10 = H, acid-sensitive blocking group, P derivative; R12 = H, OH, NH2, N3, SH, P derivative; R14 = H, OH, OR3 where R3=reactive group,protecting group,addnl. fluorophore), are identified and methods for their preparation provided. Such analogs may be incorporated into DNA and/or RNA oligonucleotides via either enzymic or chemical synthesis to produce fluorescent oligonucleotides having prescribed sequences. Such analogous sequences may be identical to, or the analogous complement of, template or target DNA or RNA sequence to which the fluorescent oligonucleotides can be hybridized. Methods of preparing either RNA or DNA oligonucleotide probes of the invention, intermediates used in such methods, and methods of using the probes of the invention in oligonucleotide amplification, detection, identification, and/or hybridization assays are also provided. Formycin A was chemical converted to deoxyformycin A and the triphosphate and 3'-O-(2-cyanoethyl)-N,N-diisopropyl phosphoramidite were prepared A hybridization assay using an enzymically prepared 150-residue oligonucleotide containing approx. 38 formycin residues was able to detect less than 10-16 moles of Chlamydia trachomatis DNA.

L10 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1993:597257 CAPLUS
DN 119:197257
TI Applications of fluorescent N-nucleosides and fluorescent structural analogs of N-nucleosides
IN Conrad, Michael J.
PA Chromagen, Inc., USA
SO PCT Int. Appl., 66 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9316094	A2	19930819	WO 1993-US1338	19930212
	WO 9316094	A3	19930930		
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 628051	A1	19941214	EP 1993-905954	19930212
	EP 628051	B1	20030702		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 07504087	T2	19950511	JP 1993-514326	19930212
	AT 244259	E	20030715	AT 1993-905954	19930212
	US 5763167	A	19980609	US 1994-214994	19940321
PRAI	US 1992-834456	A	19920212		
	WO 1993-US1338	W	19930212		

OS MARPAT 119:197257
AB Analogs of nucleic acid bases that are fluorescent under physiol. conditions are identified for use in fluorescent hybridization probes and methods of synthesis of these analogs are described. These analogs can be incorporated into oligonucleotides by standard chemical or enzymically and are capable of forming Watson-Crick base pairs. The chemical conversion of formycin A to 2'-deoxyformycin A, its phosphorylation to the triphosphate and the preparation of the phosphoramidite are described. Formycin A triphosphate and the 2'-deoxy analog successfully substituted ATP and dATP in the enzymic synthesis of high mol. weight probes from a variety of DNA templates. Probes containing formycin A moieties hybridized successfully and the hybrids showed a stability comparable to those from unsubstituted probes; fluorescence properties were as expected. The use of such probes to detect a number of sequences was demonstrated.

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L3          19 SEA SSS FUL L1

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               D 1-5 BIB ABS HITSTR
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L10          6 SEA ABB=ON  PLU=ON  L9 AND FLUORESCENT
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     DICTIONARY FILE UPDATES:  24 AUG 2006  HIGHEST RN 904307-87-5

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FILE LAST UPDATED: 24 Aug 2006 (20060824/ED)

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